3.3.8.5 Coastal Plain Marsh

3.3.8.5.1 Community Overview

The distribution of this community is limited to a few sites within the sandy beds or margins of extinct glacial lakes, on level or gently sloping glacial outwash sands, and, possibly, in glacial tunnel channels. Layers of fine-textured, relatively impermeable materials occur at shallow depths beneath the surface of at least some of these waterbodies and wetlands, and they're probably essential to normal hydrologic function. The lake or pond waters are nutrient-poor and acidic, and all known occurrences of the community are small, or at most, medium-sized. Historically the surrounding vegetation included oak and pine barrens; dry acid forests composed of oaks, pines, or mixtures; sand prairie; and various peatland communities. Periodic wildfire would have been the major disturbance force in all of these communities prior to European settlement and the implementation of fire suppression policies.

The coastal plain marsh develops on sandy lake or pond shores, sometimes with the sandy waterbody margins partially covered by localized, discontinuous layers of shallow peat or muck. At a number of sites in central Wisconsin, members of the coastal plain marsh community - including some of the rare disjuncts - have colonized, at least temporarily, ditches, borrow pits, log landings, and haul roads. At all of these sites, the ranker, overlying vegetation has been stripped away, exposing wet sand that may be fed by slow groundwater seepage from the surrounding uplands. Sometimes in these sites there are shallow excavations, creating small ponds. The long-term conservation values of such sites are uncertain, as is the source of propagules for the flora that colonizes them. In the natural systems, many, if not most of the propagules come from the local seedbank. In those sites that are of anthropogenic origin, the source is unclear, but it seems likely that, for some species, dispersal may be aided by animals (especially, but perhaps not limited to, migratory birds), and by water moving through the ditches.

The vegetation often demonstrates strong zonation, with water depth the determinant factor. The deeper, more permanent waters support aquatic macrophytes such as watershield, pondweeds, and bladderworts. The inshore shallows and pond margins are often dominated by diverse assemblages of short or medium stature graminoid plants including grasses, sedges (e.g., from the genera *Cyperus*, *Eleocharis*, *Fimbristylis*, *Fuirena*, *Rhynchospora*, *Scleria*, and *Scirpus*), and rushes (*Juncus spp.*), as well as forbs like milkworts, toothcup, meadow-beauty, lance-leaved violet, yellow-eyed grass, and several of the small St. John's worts. The uppermost, seldom-inundated margins of the wetland are typically vegetated with more robust perennials, such as grass-leaved goldenrod, Canada bluejoint grass, hardhack, meadowsweet, boneset, Joe-Pye weed, and asters.

Coastal plain marsh was not recognized as a distinct community by Curtis (1959), though he did acknowledge the presence of a coastal plain flora in the state. The unusual distributions of the coastal plain plants have long been recognized by Wisconsin botanists, however. Most of the information on this type comes from farther east; Michigan, Indiana, Ontario, and New York. In Michigan and Indiana, the distribution of this community is strongly correlated with post-glacial levels of Lake Michigan. Wisconsin occurrences support fewer of the rarities and extreme disjuncts than stands in Michigan and points eastward, but the same general patterns of geographic origin and distribution, and many habitat similarities, are in evidence.

3.3.8.5.2 Vertebrate Species of Greatest Conservation Need Associated with Coastal Plain Marsh

Six vertebrate Species of Greatest Conservation Need were identified as moderately associated with coastal plain marsh (Table 3-181). There were not any vertebrate Species of Greatest Conservation Need that were identified as significantly associated with coastal plain marsh communities.

Table 3-181. Vertebrate Species of Greatest Conservation Need that are (or historically were) moderately associated with coastal plain marsh communities.

Birds
Solitary Sandpiper
Herptiles
Blanding's Turtle
Mammals
Northern Long-eared Bat
Silver-haired Bat
Eastern Red Bat
Hoary Bat

In order to provide a framework for decision-makers to set priorities for conservation actions, the species identified in Table 3-181 were subject to further analysis. The additional analysis identified the best opportunities, by Ecological Landscape, for protection, restoration, and/or management of both Coastal plain marsh and associated vertebrate Species of Greatest Conservation Need. The steps of this analysis were:

- Each species was examined relative to its probability of occurrence in each of the 16 Ecological Landscapes in Wisconsin. This information was then cross-referenced with the opportunity for protection, restoration, and/or management of coastal plain marsh in each of the Ecological Landscapes (Table 3-182).

Table 3-182. Vertebrate Species of Greatest Conservation Need that are (or historically were) *moderately* associated with coastal plain marsh communities and their association with Ecological Landscapes that support coastal plain marsh.

Coastal Plain Marsh	Birds (1)*	Herptiles (1)	Mammals (4)			
Ecological Landscape grouped by opportunity for management, protection, and/or restoration of this community type	Solitary Sandpiper	Blanding's Turtle	Northern Long-eared Bat	Silver-haired Bat	Eastern Red Bat	Hoary Bat
MAJOR						
Central Sand Hills						
IMPORTANT						
Central Sand Plains						

*** The number shown in parentheses is the number of Species of Greatest Conservation Need from a particular taxa group that are included in the table. Taxa groups that are not shown did not have any Species of Greatest Conservation Need that met the criteria necessary for inclusion in this table.**

Color Key

= HIGH probability the species occurs in this Ecological Landscape

= MODERATE probability the species occurs in this Ecological Landscape

= LOW or NO probability the species occurs in this Ecological Landscape

3.3.8.5.3 Threats and Priority Conservation Actions for Coastal Plain Marsh

3.3.8.5.3.1 Statewide Overview of Threats and Priority Conservation Actions for Coastal Plain Marsh

The following list of threats and priority conservation actions were identified for coastal plain marsh in Wisconsin. The threats and priority conservation actions described below apply to all of the Ecological Landscapes in Section 3.3.8.5.3.2 unless otherwise indicated.

Threats and Issues

- Maintaining the natural hydrologic regime is essential for this community to persist.
- Shoreline disturbance and development can mean the loss of sensitive vegetation and the introduction of invasive plants.
- Ditching, dredging, filling, and various types of construction can seriously damage vegetation. Some of the native plants are rare and occur at only a few scattered but localized parts of Wisconsin. Chances that a species will recolonize a site from which it has been extirpated are low.

Priority Conservation Actions

- Protection of site hydrology and shorelines are the key factors to conserving this community type.
- Monitoring is needed for populations of rare or restricted species, and to determine the locations and abundance of invasive plants that are likely to spread and crowd out native vegetation.
- Work with private landowners via easements or other conservation agreements to protect shorelines and near-shore areas.
- Survey work to locate additional occurrences of this community is desirable, especially in the Central Sand Hills and Northwest Sands Ecological Landscapes.
- More detailed characterization of known occurrences is needed, to better define the type and enable comparisons with stands located to the east of Wisconsin.
- In recent years, rare invertebrates have been documented in some of the ponds associated with this community. Additional invertebrate survey work is warranted.
- Determine whether any of the sites of anthropogenic origin are viable, especially for rare or otherwise sensitive species.

3.3.8.5.3.2 Additional Considerations for Coastal Plain Marsh by Ecological Landscape

Special considerations have been identified for those Ecological Landscapes where major or important opportunities for protection, restoration, and/or management of coastal plain marsh exist. Those considerations are described below and are in addition to the statewide threats and priority conservation actions for coastal plain marsh found in Section 3.3.8.5.3.1.

Additional Considerations for Coastal Plain Marsh in Ecological Landscapes with ***Major*** Opportunities for Protection, Restoration, and/or Management

Central Sand Hills

Known occurrences are quite fragile, and a number of them are in private ownership. Notable examples of this community occur in the vicinity of Mud Lake (Waushara County) and Silver lake (Marquette County).

Additional Considerations for Coastal Plain Marsh in Ecological Landscapes with ***Important*** Opportunities for Protection, Restoration, and/or Management

Central Sand Plains

Natural lakes are virtually absent from this Ecological Landscape, with the major exception of sloughs and backwaters that occur in the floodplains of the major rivers. The few known examples of this community type in the Central Sands are highly threatened by inappropriate use of off-road vehicles and hydrologic modifications, despite occurring on public land. There are numerous stands of anthropogenic origin. A subset of these should be monitored over time, to gain better understanding of the viability for rare species and conservation value over the long-term.

A single occurrence of this type has been found in the Western Coulee and Ridges Ecological Landscape, at Fort McCoy Military Reservation. The site, which is at least partially of human origin, is currently being protected by natural resource managers and the US Army. It is very close to the boundary of the Central Sand Plains Ecological Landscape, and the soils, topography, and vegetation surrounding the site are much more similar to that found in the Central Sand Plains than they are to that found in the Western Coulees and Ridges.